ABSTRACT

A data storage device architecture includes a HDA printed circuit board (PCB) including a spindle motor driver, a read/write arm driver, a read channel driver, and a first input/output (I/O) interface that are arranged on the HDA PCB. An application PCB includes at least one of an application specific integrated circuit and a processor that performs application and hard drive control related processing. A buffer stores application and hard drive control related data. A hard drive controller (HDC), a mapping driver, and a second I/O interface are arranged on the application PCB. The second I/O interface communicates with the first I/O interface. The mapping driver is capable of at least one of mapping logical addresses to physical addresses and monitoring a location of a read/write head.